

## Information on H5N1 in Cats

**March 14, 2006**

Recently there have been reports from Germany of a cat that died as a result of an infection with avian influenza H5N1 virus. This has fueled concerns about the risk this emerging virus poses to cats and, subsequently, to the people who care for them. There are reports of increased abandonment and euthanasia of cats in the affected area. Studies show that cats are susceptible to avian influenza; however, none of the known strains of avian influenza virus have been shown to be transmissible between cats and people. The infected cat in Germany is believed to have eaten one of the H5N1-infected wild birds recently found dead in the same part of the country.

### **Avian Influenza**

Of the three types of influenza viruses (A, B, and C), it is the type A viruses that have the most significant implications for human and animal health. There are many subtypes and countless strains of influenza A viruses, and since all of them can infect birds (wild waterfowl and migrating birds are the natural hosts), they are commonly called avian influenza viruses. These viruses vary tremendously in their ability to cause disease; some subtypes and strains may occasionally jump species and infect other animals, including humans.

Although infected wild birds do not usually get sick, they can spread these viruses to domestic fowl, with devastating consequences. One highly pathogenic avian influenza virus (the H5N1 subtype) has been spreading from Asia to Europe and Africa, most likely through wild bird migrations. This virus has resulted in the deaths of approximately 200 million domestic commercial birds to date, due to either direct infection, or the culling of flocks done to keep infection from spreading. Some humans with very close contact to infected birds have become infected with H5N1, with a case fatality rate of about 50%. According to the World Health Organization, "All available evidence indicates that the virus does not spread easily from poultry to humans...Almost all cases have been linked to close contact with diseased household flocks."

Agriculture officials in the U.S. carefully monitor domestic fowl flocks for all types of avian influenza. If a highly pathogenic strain is imported or develops by mutation from a strain of lower pathogenicity, this could result in major losses of U. S. poultry. It therefore is very important to detect such an occurrence as soon as possible, to prevent spread of the virus. Such losses, along with resultant trade restrictions, would have a tremendous economic impact on the poultry industry. Avian monitoring is also important because of the possibility that an avian influenza virus could develop the ability to directly infect people, or sustain human-to-human transmission.

At the time of this writing, the avian influenza H5N1 virus is not present in North America. If the H5N1 virus enters the U.S., the safeguards established by governmental agencies and standard poultry husbandry should help prevent the kinds of outbreaks that have occurred in other parts of the world.

### **What about Cats?**

Several studies have investigated the infection of cats with avian influenza H5N1 virus. The first, "Avian Influenza H5N1 in Tigers and Leopards" ([Emerging Infectious Diseases, Vol. 10, No. 2](#)), reported on exotic cats becoming infected by eating H5N1-infected chickens obtained from a local slaughterhouse. A second report, "Avian H5N1 Influenza in Cats" ([Science, Vol. 306, Issue 5694](#)), showed that domestic cats can be infected if fed uncooked meat from H5N1-infected chickens. This latter study also showed that infected domestic cats were capable of spreading infection directly to other cats housed in the same cage. A third report, "Influenza A Virus (H5N1) Infection in Cats Causes Systemic Disease with Potential Novel Routes of Virus Spread within and between Hosts" ([American Journal of Pathology, Vol. 168, No. 1](#)), published in January 2006, more fully described the disease in cats. It further confirmed that domestic cats can be infected by eating infected birds, and that infected cats can spread the virus to other cats, most likely through close contact involving feces, urine, and secretions from the respiratory tract.

**It is unlikely that cats play a major role in the transmission cycle of H5N1 viruses and there is currently no evidence that avian influenza-infected cats can in turn infect humans.** Cats most likely become infected by feeding on infected birds, which die in association with H5N1 outbreaks. Within an area where highly pathogenic avian influenza is identified in wild birds, waterfowl are the type of bird most commonly infected, as opposed to the smaller species of birds with which cats usually interact. This risk is even smaller for cats kept primarily indoors, as opposed to feral and free-roaming cats. Within an area where domestic poultry is infected with avian influenza H5N1, there is a small risk that cats could become infected when there is contact with cats, poultry and their droppings. However, the large number of infected poultry compared to the limited number of infected cats in affected countries is indicative of the minor role that cats play in the epidemiology of this disease. Furthermore, research has shown that poultry shed significantly larger amounts of virus than cats. This also reduces the risk of cats infecting humans. For all of these reasons, *the risk to cats in this country during an avian influenza H5N1 outbreak is considered very low, as would be the risk of human infection from cats.*

### **General Safeguards for Cat Owners**

At the time of this writing, the avian influenza H5N1 virus is not present in North America and it is not necessary to take specific safeguards to protect cats from this disease. However, it is always recommended that pet owners *not feed* uncooked poultry or other raw meats to their cats. Since the H5N1 virus and the majority of other harmful microorganisms that can be found in raw meat (such as *Salmonella*, *Campylobacter*, *E.coli*, etc) are destroyed by heating, commercially manufactured pet foods are the safest foods for cats to eat. If pet owners do wish to feed their cats other products, they should check the ingredient list and manufacturing process, to ensure that if any meats are included, pathogens would be rendered harmless; likewise any home-cooked meats fed to cats should be thoroughly cooked. Since cats may kill and eat wild birds and rodents while outdoors, or get into fights with other animals, keeping them indoors will prevent the transmission of harmful pathogens that may be carried by wild and feral animals.

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This information was referenced in part from "Bird Flu: A Danger to Felines?" Cornell Feline Health Center. March 3, 2006, Dr. James Richards, Director of the Cornell Feline Health Center.

### **For More Information on Avian Influenza:**

**New Jersey Department of Health and Senior Services, Avian Influenza Page**  
<http://www.state.nj.us/health/flu/pandemic.shtml>

**New Jersey Department of Agriculture, Avian Influenza Page**  
<http://www.state.nj.us/agriculture/avianinfluenza.htm>

**Centers for Disease Control and Prevention, Influenza Page**  
<http://www.cdc.gov/flu/>

**Avian Influenza Page of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service**  
[http://www.aphis.usda.gov/newsroom/hot\\_issues/avian\\_influenza/avian\\_influenza.shtml](http://www.aphis.usda.gov/newsroom/hot_issues/avian_influenza/avian_influenza.shtml)

**National Wildlife Health Center's Avian Influenza pages**  
[http://www.nwhc.usgs.gov/disease\\_information/avian\\_influenza/index.jsp](http://www.nwhc.usgs.gov/disease_information/avian_influenza/index.jsp)

**World Health Organization's avian influenza website**  
[http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

**World Organization for Animal Health website**  
[http://www.oie.int/eng/en\\_index.htm](http://www.oie.int/eng/en_index.htm)